DOCUMENT RESUME

ED 446 201   UD 033 833

AUTHOR   Lunenburg, Fred C.; Sartori, Mary Ann; Bauske, Terri
TITLE   Classroom Climate, Teacher Control Behavior, and Student
                Self-Control: Urban Public and Military High Schools
                Compared.
PUB DATE   1999-08-11
NOTE   30p.; Paper presented at the Annual Meeting of the National
                Council of Professors of Educational Administration (Jackson
                Hole, WY, August 11, 1999).
PUB TYPE   Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE   MF01/PC02 Plus Postage.
DESCRIPTORS   Behavior Patterns; *Discipline; *Educational Environment;
                *High School Students; High Schools; Military Schools;
                Private Schools; Public Schools; Secondary School Teachers;
                *Self Control; Urban Schools

ABSTRACT
         In this study, teachers' control behavior, classroom
climate, and student self-control were investigated. Differences between
urban public and military high schools concerning these variables were also
examined. Participants were 102 high school students from an urban public
school and 94 students from an urban 4-year military high school. The study
revealed relationships among humanistic control behavior of teachers, robust
classroom climates, and student self-control. Differences in control
behaviors and classroom climate were found between urban public and military
high school classrooms. However, no differences were found in students'
self-control between urban public and military high school classrooms.
(Contains 6 tables and 41 references.) (Author/SLD)

Running Head: CLASSROOM CLIMATE

Classroom Climate, Teacher Control Behavior, and Student Self-Control:

Urban Public and Military High Schools Compared

Fred C. Lunenburg
Sam Houston State University

Mary Ann Sartori
Sam Houston State University

Terri Bauske
Sam Houston State University

Address all correspondence to:
Fred C. Lunenburg
Sam Houston State University
P.O. Box 2119
Huntsville, Texas 77341-2119
Telephone: (936) 294-3838
Fax: (936) 294-3886
E-mail: edu_fcl@shsu.edu

F. Lunenburg

2

Abstract

In this study, teachers' control behavior, classroom climate, and student self-control were investigated. Differences between urban public and military high schools concerning these variables were also examined. The study revealed relationships among humanistic control behavior of teachers, robust classroom climates, and student self-control. Differences in control behavior and classroom climate were found between urban public and military high school classrooms. However, no differences were found in students' self-control between urban public and military high school classrooms. (This article is a revised version of a paper presented at the annual meeting of the National Council of Professors of Educational Administration, Jackson Hole, Wyoming, August 11, 1999.)

Classroom Climate, Teacher Control Behavior, and Student Self-Control:

Urban Public and Military High Schools Compared

How teachers influence life in classrooms needs to be examined further by students of educational administration. It is clear that, in the right circumstances, the behavior of teachers can influence the attitudes and behavior of students (Lunenburg, 1995; Lunenburg & Irby, 1999; Lunenburg & Ornstein, 1996; Ryan & Cooper, 1998).

It is widely held that teachers contribute greatly to the atmosphere or tone of their classrooms. Indeed, the behavior of the teacher as it is perceived by students figures substantially in studies of classroom climate (Ellett & Logan, 1990; Freiberg, 1999; Furman, 1999; Hudley, 1998; Myers, 1995; Pierce, 1994; Valesky, 1990; Van der Sijde & Tomic, 1992; Whedell, Beaman, & Mok, 1999).). Thus, the impact of the teacher in setting the tone of the classroom for students has been the object of interest for some time (Anderson & Walberg, 1974; Ellett, Payne, Masters, & Pool, 1977; Ellett & Walberg, 1979; Hoy, Hannum, & Tschannen-Moran, 1998; Jackson, 1990; Moos, 1976; 1979a, 1979b; Randhawa & Fu, 1973; Trickett & Moos, 1973; Walberg & Anderson, 1972; Walberg, Singh, & Rasher, 1977).

In this study, the impact of the teacher's behavior on students was explored. Specifically examined were the relationships among teachers' control behavior, classroom climate, and students' self-control. Robust classroom climates are those perceived by students to be high in dramatic content. Classrooms that are perceived to be interesting, meaningful, challenging, and action-packed are more robust than classrooms perceived to be boring, meaningless, dull, and uneventful. Also examined in this study

4

were differences between urban public and military high schools concerning these variables.

These relationships were especially appropriate ones to investigate for four reasons. First, because teachers are the chief representatives of formal authority in their classrooms and students are keenly aware of adult domination in schools, it seemed likely that the control behavior of teachers would have a genuine impact on students. Second, because students often claim that schools are monotonous and boring, it seemed useful to examine the robustness perceived by students in the classroom environment. Third, since self-control is espoused to be a positive force in students' attitudes and behavior in schools, it seemed likely that students' self-control would be associated with both teacher control behavior and classroom robustness. Fourth, because mi.   ry high schools provide an alternative experience to mandatory public high school attendance, it seemed useful to examine differences between urban public and military high schools concerning teacher control behavior, classroom climate , and student self-control. Hence, the variables investigated were suggested by the character of schools as social organizations.

Rationale and Hypotheses

The initial studies of robustness and control behavior showed a strong inverse relationship between custodial teacher control behavior and student reports of classroom robustness. One of the studies used a sample of elementary school teachers and students (Multhauf, Willower, & Licata, 1978). Another was of secondary teachers and students (Estep, Willower, & Licata, 1980). A third study used a sample of elementary and secondary school principals and students (Smedley & Willower, 1981). And still another study examined differences in robustness and control ideology and behavior between

public and private high schools (Lunenburg, 1991).

One plausible explanation of the findings of these studies was that custodial classrooms are highly routinized places where activities are directed by a profusion of regimens and rules that make for a dull but predictable environment. Another possibility was that teachers who are custodial might have chaotic and conflict-laden classrooms. Still another was that the classes of more humanistic teachers (at the other end of the continuum from custodial) are simply more interesting and less boring classroom environments than those of custodial teachers.

One of the researchers who gathered on-site data for this study and who was familiar with the sample schools, reported that teachers who were highly humanistic in control behavior and had highly robust classrooms did not appear to have much conflict with students (Sartori, Bauske, & Lunenburg, 1999). Other investigators similarly reported that, in the six classrooms they observed, routinization and robustness were inversely related (Licata & Wildes, 1980). It is quite reasonable then to conjecture that the classrooms of more custodial teachers are less robust because they are more routinized, less interesting, and more boring than the classrooms of teachers whose control behavior is more humanistic.

Now let us add to these considerations students' self-control and differences between urban public and military high schools concerning the major variables of this study: control behavior, classroom climate, and self-control. If teachers can affect the tone of their classrooms, if they can influence the degree of routinization faced by students, and if they can help make classrooms freer and more interesting, then they will have an impact on students' perceptions of classroom climate. Moreover, it seemed

likely that students who apply self-control methods (i.e., control emotional and physiological responses, apply problem solving strategies, and have a sense of self-efficacy) would more likely perceive their teachers as more humanistic and their classrooms as more robust. For example, in examining convergent and discriminate validity of the Self-Control Scale (SCS), which measured student self-control in this study, Rosenbaum (1980) reported comparable scores between the SCS and Rotter's (1966) Internal-External Locus of Control Scale. And Lunenburg and Cadavid (1991) reported a positive correlation between humanistic control ideology (a companion construct to control behavior) and internal locus of control in a study of urban high school teachers.

Furthermore, it seems reasonable to conjecture that military high schools provide less robust classroom climates than urban public high schools. One reason for this suggestion is that military high schools, by their very nature, reinforce status differentiation between student and teacher. For example, all of the classroom teachers in the military high school classrooms we surveyed were commissioned officers in the Army (two were lieutenants, one was a captain, and another was a major). Social distance between teacher and student was strictly enforced in the military high school. The teacher's dress. an Army uniform, was unvaried and colorless. It tends to suggest standardization, regimentation, and impersonal relationships with students. Also, the researchers observed that the military high school in this study was highly routinized where rules were strictly enforced, which students may have seen as dull, boring routine. The atmosphere was formal and autocratic, stressing close supervi on of student work by the teacher both inside and outside of the classroom.

Put another way, the question is whether students will report higher levels of self control and more robust classrooms when their teacher is more humanistic in control behavior, and report lower levels of self-control and less robust classrooms when their teacher is more custodial in control behavior. Another question is whether students will report differences between urban public high school classrooms and military high school classrooms concerning control behavior , robust classroom climates, and self-control. Assuming an association among control behavior , robust classroom climates, and self control already posited, the investigators proposed the following hypotheses: There is a direct relationship between teachers' humanistic control behavior and students' reports of robust classroom climates and high levels of self-control. There are differences between urban public and military high schools concerning control behavior, classroom climate, and self-control.

Method

Sample and Setting

Subjects were 196 students from two urban high schools in a southwestern state. Participation was voluntary, and no incentives were provided for the subjects. The two school sites had enrollments of approximately 3,500 and 2,600 students respectively. The sample was composed of two randomly selected groups: (a) 102 ninth through twelfth grade students randomly selected from four English classrooms in an urban four-year public high school and (b) 94 ninth through twelfth grade students randomly selected from four English classrooms in an urban four-year military high school. In each of the high schools, one English class was selected for each grade level. The urban public high school sample consisted of 50 males and 52 females (41 whites, 33 blacks, 22 Hispanics,

4 Asians, and 2 from other ethnic backgrounds). The urban military high school sample was composed of 69 males and 25 females (48 whites, 27 blacks, 15 Hispanics, 2 Asians, and 2 from other ethnic backgrounds). The teacher sample in both high schools was predominantly white, excepting one black teacher in the public high school.

Instruments

Teacher control behavior was measured using the PCB form (Helsel & Willower, 1974). The PCB is a 20-item, Likert-type device, which measures an educator's control behavior along a humanistic-custodial continuum. Humanistic educators strive to establish an accepting, trustful classroom atmosphere and encourage pupil self-discipline and responsibility. Custodial educators strive to maintain a high degree of order and manifest unilateral, downward communication, distrust of students, and use threats and punitive sanctions to control students. Responses to each item of the PCB range over five choices from always-to-never. The instrument is completed by students, and the score of a given teacher is the mean of the scores of the responding students in that teacher's classroom. The possible score range is from 20 to 100. Higher scores indicate more custodial control behavior, while lower scores indicate more humanistic behavior. The reported reliability of the PCB was .92 as estimated by Cronbach's alpha (Cronbach, 1951). Item-scale correlations for the instrument averaged .81, and a one-way analysis of variance indicated that the measure differentiated among subjects while clustering within subjects (Helsel & Willower, 1974).

Classroom climate was measured by the Robustness Semantic Differential scale (RSD). The RSD is based on the semantic differential techniques of Osgood, Suci, and Tennenbaum (1957). It consists of 10 adjective pairs such as interesting/boring,

challenging/dull, thrilling/quieting, important/unimportant, meaningful/meaningless, uneventful/action-packed, fresh/stale, powerful/weak, usual/unusual, and passive/active. A seven-point response scale is used. The instrument is completed by students, and the classroom score is the mean of the responding students' scores in that teacher's classroom. The possible score range is from ten to 70 with higher scores indicating greater robustness. The RSD produced Pearson test-retest correlation coefficients ranging from .40 to .67 and Spearman test-retest correlation coefficients ranging from .42 to .65 (n = 84). Test-retest coefficients for the total instrument were .77 Pearson and .78 Spearman (Licata & Willower, 1978). In addition, analyses of data generated by Estep, Willower, and Licata (1978) with 1,979 high school students and Lunenburg (1991) with 2,638 public and private high school students produced alpha coefficients of .89 and .92, respectively. Concurrent validity was demonstrated for each of the ten items based on their ability to discriminate significantly between the concepts of "dramatic" and "not dramatic" (Licata & Willower, 1978). Further, the RSD exhibits a degree of face validity, as well (Licata, Willower, & Ellett, 1978).

Students' self-control was determined using the Self-Control Scale (SCS) (Rosenbaum, 1980). The SCS assesses individual's tendencies to apply self-control methods to the solution of behavioral problems. Students complete a 34-item, Likert-type scale, which describes cognition and "self-statements" to control emotional and physiological responses, the application of problem solving strategies, the ability to delay immediate gratification, and perceived self-efficacy. Student responses range from "very like me" to "very unlike me." The score range is 34 to 204 with the higher scores representing high self-control. The Pearson test-retest coefficient for the total instrument

was .86. Convergent and discriminate validity of the SCS was examined by comparing

the scores obtained on the SCS to scores obtained on a number of existing scales, notably

Rotter's (1966) Internal-External Locus of Control Scale and Jones' (1968) Irrational

Beliefs Test (Rosenbaum, 1980).

Data Collection and Analysis

The instruments just described, as well as background information items, were

distributed to the two groups of students by their classroom teacher during regularly

scheduled class meeting times. At a meeting prior to the administration of the

questionnaires, the purpose of the study was explained in general to the participating

teachers and anonymity and confidentiality was guaranteed. Of the students present, 98 %

returned usable forms.

Relationships between teacher control behavior and classroom climate, teacher

control behavior and self-control, and classroom climate and self-control were tested by

Pearson product-moment correlation coefficients. Analysis of variance was used to

examine differences in teacher control behavior, classroom climate, and self-control

between urban public high school classrooms and military high school classrooms. In

addition, three stepwise multiple regression analyses were performed separately to

determine the most significant predictors of control behavior, classroom climate, and

self-control from school type and demographic variables.

Results

Humanism in teacher control behavior was directly related to students'

perceptions of their classrooms as robust or dramatic for all classrooms ($r = -.41$, $p <$

.0001). Furthermore, there was a significant relationship between students' perceptions of

a favorable classroom climate and increased levels of student self-control for the overall sample (r = .32, p < .0001). Moreover, the relationship between humanism in teacher control behavior as perceived by students and increased levels of self-control as reported by students was significant for all classrooms (r = - .23, p = < .001). It should be noted that the negative correlations reported were a function of the scaling of the PCB, RSD, and SCS, where increasing teacher control behavior was associated with decreasing classroom robustness and self-control and vice-versa. The Pearson correlations among the variables are summarized in Table 1.

Insert Table 1 about here

With respect to differences in teacher control behavior between urban public high school classrooms and military h[i]_h school classrooms, the one-way ANOVA yielded a significant difference between the groups (F = 59.54, p < .0001). Mean response scores are urban public high school classrooms (M = 44.07) and military high school classrooms (M = 68.26). That is, students in the urban public high school perceived their teachers' control behavior as more humanistic than the control behavior of teachers in the military high school.

Regarding differences in classroom climate between urban public high school classrooms and military high school classrooms, the one-way ANOVA yielded a significant difference between the groups (F = 6.09, p < .01). Mean response scores are urban public high school classrooms (M = 46.67) and military high school classrooms (M = 42.24). Recall the higher the RSD score, the more robust the classroom climate.

Findings suggest that students' perceptions of the teachers' control behavior in urban

public high school classrooms were weighted toward the humanistic end of the

continuum. Furthermore, these same humanistic classrooms in the urban public high

school were perceived to be more robust or dramatic - that is, more interesting,

challenging, meaningful, action-packed, and so forth - than those classrooms in the

military high school. However, no statistically significant differences were found in

student self-control between the public and military high schools ($F = 5.73$, $p > .05$). The

data are summarized in Tables 2, 3, and 4.

Insert Tables 2, 3, and 4 about here

In addition, three stepwise multiple regression analyses were performed

separately with control behavior, classroom climate, and self-control, respectively as the

criterion variable. Standard use of stepwise regression was employed. That is, the first

predictor variable added was the one that correlated highest with the criterion; the next

variable added was the one that, in concert with the first, best predicted the criterion, and

so on. The final regression equation contained the variables that in combination

represented the best predictive value while holding the other variables constant.

Ten predictor variables were regressed separately against control behavior,

classroom climate, and self control, as well as from demographic characteristics such as

age, gender, ethnicity, years enrolled, attendance (mandatory or voluntary), satisfaction

with school, involvement in school activities, and school type.

Tables 5 through 7 present summaries of multiple correlations (R), squared

multiple correlations (R^2), F values (F), and significance levels (p) for each step of the regressions of the ten predictor variables against control behavior, classroom climate, and self-control analyzed separately.

Table 5 summarizes the results of the regression of teacher control behavior and the ten predictor variables for all classrooms. The predictor variable entering the equation at the first step was school type (public high school, military high school). The PCB/school type correlation was .458 ($p < .0001$), indicating about 21% of common PCB-predictor variable variance. At step 2, the next variable to enter the regression equation was classroom climate, which when combined with the school type variable, increased the multiple correlation to .637 and the amount of predictor/control behavior shared variance to approximately 41% The addition of satisfaction with school at step 3 and years enrolled in the school at step 4 raised the multiple correlation to .683, and the amount of PCB-predictor factor variance to approximately 47%. The inclusion of all ten predictor variables in the regression analysis increased the multiple correlation to .712, and the amount of explained PCB-predictor variable variance to 51%.

Insert Table 5 about here

Table 6 presents a summary of findings from the regression of classroom climate and the ten predictor variables. The first predictor variable to enter the regression equation was control behavior. The PCB-classroom climate correlation was moderate (R = .408, $p < .0001$) and accounted for approximately 17% of classroom climate for all classrooms. The next predictor variable to enter at step 2 was school type. When

combined with the control behavior variable at step 1, the multiple correlation increased to .502, indicating about 25% shared classroom climate-predictor factor variance. The addition of student self-control at step 3 increased the multiple correlation to .547, and the amount of classroom climate-predictor factor variance to about 30%. Moderate amounts of classroom climate variance were accounted for through step 10 by the addition of the remaining predictor variables, increasing the multiple correlation to .56, and the amount of common classroom climate-predictor factor variance to about 31%.

Insert Table 6 about here

Table 7 summarizes the results of the regression of self-control and the ten predictor variables for all classrooms. The predictor variable entering the regression equation at the first step was classroom climate. The self-control/classroom climate correlation was .317 ($p < .0001$), indicating about 10% of common self-control/predictor variable variance. The addition of satisfaction with school to the equation at step 2 raised the multiple correlation to .379, and the amount of student self-control/predictor factor variance to approximately 14%. The inclusion of all ten predictor variables in the regression analysis increased the multiple correlation to .423, and the amount of explained self-control-predictor variable variance to approximately 18%.

Insert Table 7 about here

15

The results shown in Tables 5 through 7 suggest that control behavior in all classrooms is largely explained by school type in combination with classroom climate and satisfaction with school. Classroom climate is explained by control behavior in combination with school type and self-control. And student self-control is largely explained by classroom climate in combination with satisfaction with school. Clearly, the three major variables of the study (control behavior, classroom climate, and self-control) are interrelated, and school type and satisfaction with school are predictors of each.

Discussion

Differences between urban public high school classrooms and military high school classrooms were the most striking finding of this inquiry. Put another way, students in public high school classrooms reported that their teachers were more humanistic and their classrooms were more robust than students in military high school classrooms. This finding suggests that robust classroom climates are simply active and interesting places that do not require strict teacher control.

The more custodial scores assigned by students to teachers in military high school classrooms might well be a function of greater hierarchical distance and the tendency of students to see teachers as authority figures in that environment. Furthermore, such behavior is often highly visible to students in military high schools, as when teachers monitor student conduct in the mess hall, on training maneuvers, and in the barracks. And this in turn probably reinforces student perceptions of military high school teachers, who were all commissioned officers in this study, as authority figures. Moreover, as speculated, routinization and constraints typically found in military high schools are likely to reduce robustness while leeway and freedom from rigid regulation associated

16

with urban pubic high schools by comparison are likely to enhance robustness for students.

Furthermore, the differences found between schools underscores the importance of contextual variables. The environments in which the school and the classroom exist are likely to exact their influence, channeling numerous relationships internal to those units. At the very least, this finding serves as a reminder of such influences. No significant differences were found in self-control, however, between urban public high school classrooms and military high school classrooms.

The case for relationships among teacher control behavior, classroom climate, and self-control is more clear cut. In the present study, we found significant but moderate associations among humanism in control behavior, robust classroom climates, and high levels of self-control. That is, when teachers' control behavior was more humanistic toward students, the students tended to report their classroom climates as more interesting, challenging, meaningful, action-packed, and so forth and reported high levels of self-control. When teachers' control behavior was more custodial, students tended to report their classrooms as more boring, dull, meaningless, uneventful, and so forth and reported low levels of self-control.

Results of the multiple regression analyses added further validity to the relationships among control behavior, classroom climate, and self-control. Teacher control behavior together with school type accounted for 25% of the variance in classroom climate. School type together with classroom climate accounted for 41% of the variance in control behavior. And classroom climate together with satisfaction with school accounted for 14% of the variance in student self-control. These findings indicate

1 7

that, at least in this study, teacher behavior and school type did make a difference in what school was like for students. And it was revealed that there were other things that also had an impact on teacher control behavior, classroom climate, and self-control. Variables like personal characteristics, peer relationships, school grades, performance on standardized tests, and college and occupational plans, which are not easily influenced by educators and which were not considered in this research, are probably no less important influences on student perceptions of life in schools and classrooms.

The results of this study should be interpreted with some caution. The sample was relatively small and was drawn from only one urban public high school and one military high school in a single state. The education programs in each school were traditionally structured. In this situation, most of the hypotheses were confirmed and supported the theoretical rationale of the study. The findings complement the extant research on classroom climate. The one surprise was that student self-control, although related to both teacher control behavior and classroom climate, did not differ significantly between public and military high schools. This finding merits more careful scrutiny in other samples. Further inquiries, especially those in the field study mode, might shed light on the place of student self-control in relation to teacher control behavior and classroom climate.

References

Anderson, G. J., & Walberg, H. J. (1974). Learning environments. In H. J. Walberg (Ed.), *Evaluating educational programs*. Berkeley, CA: McCutchan.

Bellack. A. S., & Schwartz, J. S. (1976). Assessment for self-control programs. In M. Hersen and A. S. Bellack (Eds.), *Behavioral assessment: A practical handbook.* Oxford: Pergamon Press.

Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334.

Ellett, C. D., & Logan, C. S. (1990, April). *Analysis of school level learning environments: Organizational coupling, robustness, and effectiveness.* Paper presented at the annual meeting of the American Educational Research Association, Boston, MA.

Ellett, C. D., & Payne, D. A., Masters, J. A., & Pool, J. E. (1977, May). *The relationship between teacher and student assessments of school environment characteristics and school outcome variables.* Paper presented at the 23rd annual meeting of the Southeastern Psychological Association, Hollywood, Florida.

Ellett, C. D., & Walberg, H. J. (1979). Principals' competency, environmemt, and outcomes. In H. J. Walberg (Ed.), *Educational environments and effects*. Berkeley, CA: McCutchan.

Estep, L. W., Willower, D. J., & Licata. J. W.. (1980). Teacher pupil control idcology and behavior as predictors of classroom robustness. *High School Journal*, 66, 155-159.

Freiberg, H. J. (1999). *School climate: Meaning, measuring, improving, and sustaining healthy learning environments.* Bristol, PA: Falmer Press.

Furman, A. (1999). Teacher and pupil characteristics in the perception of creativity of classroom climate. *Journal of Creative Behavior*, 32 (4), 258-277.

Helsel, A. R., & Willower, D. J.(1974). Toward definition and measurement of pupil control behavior. *Journal of Educational Administration*, 12, 114-123.

Hoy, W. K., Hannum, J., & Tschannen-Moran, M. (1998). Organizational climate and student achievement: A parsimonious and longitudinal view. *Journal of School Leadership*, 8 (4), 336-359.

Hudley, C. (1998, April). *Urban minority adolescents' perceptions of classroom climate*. Paper presented at the annual meeting of the American Educational Research Association, San Diego, CA.

Jackson, P. W. (1990). *Life in classrooms*. New York: Teachers College Press.

Jones, R. G. (1968) A factored measure of Ellis' irrational belief systems. Wichita, KS: Test Systems, Inc.

Licata, J. W., & Wildes, J. R. (1980). Environmental robustness and classroom structure: Some field observations. *High School Journal.*, 63 (4), 146-154.

Licata, J. W., & Willower, D. J. (1978). Toward an operational definition of environmental robustness. *Journal of Educational Research*, 71, 218-222.

Licata, J. W., Willower, D. J., & Ellett, C. D. (1978). The school and environmental robustness: An initial inquiry. *Journal of Experimental Education*, 47, 28-36.

Lunenburg, F. C. (1991). Pupil control ideology and behavior as predictors of environmental robustness: Public and private schools compared. *Journal of Research and Development in Education*, 24, 15-19.

Lunenburg, F. C. (1995). *The principalship: Concepts and applications.* Englewood Cliffs, NJ: Prentice-Hall.

Lunenburg, F. C., & Cadavid, V. (1992). Locus of control, pupil control ideology, and dimensions of teacher burnout. *Journal of Instructional Psychology*, 19, 13-22.

Lunenburg, F. C., & Irby, B. J. (1999). *High expectations: An action plan for implementing goals 2000.* Thousand Oaks, CA: Corwin Press.

Lunenburg, F. C., & Ornstein, A. O. (1996). *Educational administration: Concepts and practices*, 2nd ed. Belmont, CA: Wadsworth/Thomson Learning.

Moos, R. H. (1976). *The human context: Environmental determinants of behavior.* New York: Wiley.

Moos, R. H. (1979a). Educational climates. In H. J. Walberg (Ed.). *Educational environments and effects.* Berkeley, CA: McCutchan.

Moos, R. H. (1979b). *Evaluating educational environments.* San Francisco, CA: Jossey-Bass.

Multhauf, A. P., Willower, D. J., & Licata, J. W. (1978). Teacher pupil control ideology and behavior and classroom environmental robustness. *Elementary School Journal*, 79, 41-46.

Myers, S. A. (1995). Student perceptions of teacher affinity-seeking and classroom climate. *Communication Research Reports*, 12 (2), 192-199.

Osgood, C. E., Suci, G. J., Tennenbaum, P. H. (1957). *The measurement of meaning.* Urbana, IL: University of Illinois Press.

Pierce, C. (1994). Importance of classroom climate for at-risk learners. *Journal of Educational Research*, 88 (1), 37-42.

Randhawa, B. S., & Fu, L. L. W. (1973). Assessment and effect of some classroom environment variables. Review of Educational Research, 43, 303-323.

Rosenbaum, M. (1980). A schedule for assessing self-control behaviors: Preliminary findings. *Behavior Therapy*, 11, 109-121.

Rotter. J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs*, 80 (1 Whole No. 609).

Ryan, K., & Cooper, J. M. (1998). Those who can, teach, 8th ed. Boston: Houghton Mifflin.

Sartori, M. A., Bauske, T., & Lunenburg, F. C. (1999, April). *Pupil control behavior, classroom robustness, and self-control: Public and military high schools compared.* Paper presented at the annual meeting of the American Educational Research Association, Montreal, Canada.

Smedley, S. R., & Willower, D. J. (1981). Principals' pupil control behavior and school robustness. *Educational Administration Quarterly*, 17, 40-56.

Trickett, E. J., & Moos, R. H. (1973). The social environment of junior high and high school classrooms. *Journal of Educational Psychology, 65,* 93-102.

Walberg, H. J., & Anderson, G. J. (1972). Properties of the achieving urban classes. *Journal of Educational Psychology, 63,* 381-385.

Walberg, H. J., Singh, R., & Rasher, S.P. (1977). Predictive validity of student perceptions: A cross-cultural replication. *American Educational Research Journal, 14,* 45-49.

Valesky, T. et al. (1990). *Baseline data on school climate, classroom climate, and self-concept as a learner in schools using school based decision making.* Eugene, OR:

National Center for Research on Educational Management, ERIC Document

Reproduction Service No. ED 326 951).

Van der Sijde, P. C., & Tomic, W. (1992). The influence of a teacher training

program on student perception of classroom climate. *Journal of Education for Teaching.*,

18 (3), 287-295.

Whedall, K., Beaman, R., & Mok, M. (1999). Does an individualized classroom

environment questionnaire (ICEQ) measure classroom climate. *Educational and*

Psychological Measurement, 59 (5), 847-854.

Variables	r	Prob.
Control Behavior x Classroom Climate	-.413	.0001
Classroom Climate x Self-Control	-.322	.0001
Control Behavior x Self-Control	-.234	.001

Table 1. Pearson Correlation Coefficients among Variables

	School Types			
	Public High School		Military High School	
Number	102		94	
Mean	44.07		68.26	
Standard Deviation	13.75		14.56	
Source	df	SS	MS	F
Between Groups	1	23823.73	11911.87	59.54*
Within Groups	194	39610.29	200.05	

*$p < .0001$

Table 2. Summary Data and Analysis of Variance Data for Comparisons of Control Behavior between Public and Military High School Classrooms

	School Types			
	Public High School		Military High School	
Number	102		94	
Mean	46.67		42.24	
Standard Deviation	12.43		12.93	
Source	df	SS	MS	F
Between Groups	1	1855.03	927.51	6.09*
Within Groups	194	29385.40	152.26	

*p < .01

Table 3. Summary Data and Analysis of Variance Data for Comparisons of Classroom Climate between Public and Military High School Classrooms

	School Types			
	Public High School		Military High School	
Number	102		94	
Mean	132.54		129.86	
Standard Deviation	19.44		18.38	
Source	df	SS	MS	F
Between Groups	1	417.83	209.92	5.73 (N.S)
Within Groups	194	70418.72	364.86	

Table 4. Summary Data and Analysis of Variance Data for Comparisons of Self-Control between Public and Military High School Classrooms

Variable	R	R^2	F	P
School Type	.4580	.2098	65.81	.0001
Climate	.6368	.4055	51.48	.0001
Satisfaction	.6623	.4386	50.00	.001
Yrs. Enrolled	.6826	.4659	41.66	.01
-----------------				
n = 196		.		

Table 5. Stepwise Multiple Regression Analysis of Predictors of Control Behavior for All Classrooms

Variable	R	R^2	F	P
PCB	.4079	.1664	38.73	.0001
School Type	.5017	.2517	32.46	.001
Self-Control	.5469	.2991	27.30	.01

----

n = 196

Table 6. Stepwise Multiple Regression Analysis of Predictors of Classroom Climate for All Classrooms

Variables	R	R^2	F	P
Climate	.3167	.1003	21.62	.001
Satisfaction	.3791	.1437	16.19	.01
------------------				
n = 196				

Table 7. Stepwise Multiple Regression Analysis of Predictors of Self-Control for All Classrooms